



COURTESY COPY OF PENDING CLAIMS PENDING AS OF FILING OF REQUEST
FOR CONTINUED EXAMINATION

Bieser *et al.*, U.S. App. Ser. No. 09/032,893

Filed February 27, 1998

Attorney Docket No. 19133.0029U2

1. A carpet comprising:
 - a. a primary backing material having a face and a back side;
 - b. a plurality of fibers attached to the primary backing material and extending from the face of the primary backing material and exposed at the back side of the primary backing material; and
 - c. an adhesive backing material, wherein the adhesive backing material has substantially penetrated and substantially consolidated the fibers, wherein the adhesive polymer comprises at least one homogeneously branched ethylene polymer characterized as having a short chain branching distribution index (SCDBI) of greater than or equal to 50 percent, wherein the adhesive backing material is not integrally fused to the primary backing material, and wherein the carpet has a tuft bind of 5 pounds or more as measured according to ASTM D-1335-67.
2. The carpet of Claim 1 wherein the adhesive backing material is comprised of the at least one homogeneously branched ethylene polymer.
3. The carpet of Claim 1 wherein the homogeneously branched ethylene polymer is an interpolymers of ethylene with at least one C₃-C₂₀ α-olefin.
4. The carpet of Claim 1 wherein the homogeneously branched ethylene polymer is a copolymer of ethylene and one C₃-C₂₀ α-olefin.
5. The carpet of Claim 4 wherein the one C₃-C₂₀ α-olefin is selected from the group consisting of propylene, 1-butene, 1-isobutylene, 1-pentene, 1-hexene, 4-methyl-1-pentene, 1-heptene and 1-octene.
6. The carpet Claim 5 wherein the one C₃-C₂₀ α-olefin is 1-octene.
9. The carpet of Claim 1 wherein (i) the fibers, primary backing and adhesive backing all comprise a polyolefin polymer, (ii) the olefin monomer chemistry of the adhesive backing differs from that of the fibers and the primary backing, and (iii) the carpet

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includes a label or literature at the time of sale which represents that the carpet is recyclable without segregation of carpet components.

10. The carpet of Claim 1 wherein the at least one homogeneously branched ethylene polymer is further characterized as having a single differential scanning calorimetry, DSC, melting peak between -30 and 150°C .
11. The carpet of Claim 10 wherein the at least one homogeneously branched ethylene polymer is a substantially linear ethylene polymer characterized as having:
 - a. a melt flow ratio, $I_{10}/I_2 \geq 5.63$,
 - b. a molecular weight distribution, M_w/M_n as determined by gel permeation chromatography and defines by the equation:
$$(M_w/M_n) \leq (I_{10}/I_2) - 4.63, \text{ and}$$
 - c. a gas extrusion rheology such that the critical shear rate at onset of surface melt fracture for the substantially linear ethylene polymer is at least 50 percent greater than the critical shear rate at the onset of surface melt fracture for the linear ethylene polymer, wherein the linear ethylene polymer has a homogeneously branched short chain branching distribution and no long chain branching, and wherein the substantially linear ethylene polymer and the linear ethylene polymer are simultaneously ethylene homopolymers or interpolymers of ethylene and at least one $\text{C}_3\text{-C}_{20}$ α -olefin and have the same I_2 and M_w/M_n and wherein the respective critical shear rates for the substantially linear ethylene polymer and the linear ethylene polymer are measure at the same melt temperature using a gas extrusion rheometer.
12. The carpet of Claim 1 wherein the at least one homogeneously branched ethylene polymer is homogenously branched linear ethylene polymer.
15. The carpet of claim 1, wherein the primary backing material consists essentially of a polypropylene material.

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16. The carpet of claim 1, further comprising a secondary backing material adjacent to the adhesive backing material.
17. The carpet of claim 16, wherein the secondary backing material comprises at least one homogenously branched ethylene polymer characterized as having a short chain branching distribution index (SCDBI) of greater than or equal to 50 percent.